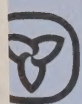


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SURVEY OF LOCAL TELEPHONE PRICING
AND USAGE ISSUES AMONG CUSTOMERS
IN ONTARIO

VOLUME 1 - RESIDENTIAL

Prepared by

The Coopers & Lybrand Consulting Group

for

Ministry of Transportation and Communications
Ontario

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ONTARIO MINISTRY OF TRANSPORTATION AND
COMMUNICATIONS

SURVEY OF LOCAL TELEPHONE PRICING AND USAGE
ISSUES AMONG RESIDENTIAL CUSTOMERS IN ONTARIO

October 22, 1985

Submitted to: Ontario Ministry of
Transportation and
Communications

Submitted by: L. Bozinoff, Ph.D.



The
Coopers
& Lybrand
Consulting Group
Management Consultants

SURVEY OF LOCAL TELEPHONE PRICING AND USAGE ISSUES
AMONG RESIDENTIAL CUSTOMERS

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EXECUTIVE SUMMARY

Local telephone service in Ontario has traditionally been priced on the basis of a flat rate per month. Bell Canada has proposed two significant changes to the pricing of local service. First, Bell has proposed to the CRTC that rate rebalancing be undertaken so that local rates are increased and long distance rates are decreased. Second, Bell Canada is extensively studying local measured service (LMS) which would move local rate structures away from a flat rate basis to a usage sensitive basis (similar to long distance rates). There is currently a lack of information on the effects of LMS and rate rebalancing within Ontario or within Canada.

The research objective of this study was to collect information from residential and small business telephone users in Ontario concerning;

- local and long distance calling patterns;
- attitudes towards local and long distance pricing issues;
- interrelationships between pricing attitudes and calling patterns;
and
- interrelationships between pricing attitudes and user
characteristics.

This report describes the findings regarding residential customers. A companion report contains the small business customer findings.

The data for this study were collected by a mail diary and accompanying questionnaire. The questionnaire was designed to measure telephone pricing attitudes and user characteristics. The diary was designed to

measure outgoing telephone calling patterns. Individuals were surveyed from each of the Ministry's five administrative regions, for a total of 328 respondents. The sample was drawn randomly from telephone books for a set of selected cities in each region. The cities were chosen on the basis of their representativeness of the region and the requirement that each city has Extended Area Service (EAS). Rural and suburban representation was ensured by recruiting individuals who resided in small communities adjacent to the selected cities.

There are seven key findings:

- Residential respondents make an average of 21.5 local calls and 1.4 long distance calls each week, primarily to friends and relatives.
- Most residential respondents are strongly opposed to the rate rebalancing proposal presented in this study, generally because few respondents perceive any benefits to them in rate rebalancing.
- Respondents are also opposed to either local measured service or local measured service with rate rebalancing.
- Respondents who make a high number of local calls tended to prefer flat rate service while respondents who make a low number of local calls tended to prefer local measured service.
- Respondents who make a low number of long distance calls tended to oppose the reduced long distance rates and higher local service charges under rate rebalancing while respondents who make a high number of long distance calls tended to prefer rate rebalancing.
- Households where someone is confined indicated a greater difficulty in affording rate rebalancing.
- Low income households reported greater likelihood of discontinuing telephone service if local measured service with rate rebalancing is introduced.

I. INTRODUCTION

A. BACKGROUND

Local telephone service in Ontario has traditionally been priced on the basis of a flat rate per month for a given exchange size (i.e., rate group) and type of service (i.e., residence, business). Bell Canada has proposed two significant changes to the pricing of local service.

First, Bell has proposed to the CRTC that a form of rate restructuring on which Bell calls "rate rebalancing" be undertaken so that local rates are increased and long distance rates are decreased. The arguments given for rate rebalancing include:

- Local service costs are said to be greater than local service rates.
- Long distance costs are said to be less than long distance rates.
- Competitive pressures in the long distance voice communication market will drive long distance charges toward cost.

Second, Bell Canada is extensively studying local measured service (LMS) which would move local rate structures away from a flat rate basis to a usage sensitive basis (similar to long distance rates). The arguments given for local measured service include:

- the inherent fairness of making customers pay in direct proportion to their local service usage and,
- the ability of LMS to induce customers to modify their local calling patterns by shifting calls to off-peak periods, thereby reducing the required switching capacity of the local network.

In the United States, numerous studies and isolated bits of data collectively point to the probability that the introduction of rate rebalancing and local measured service will have a different impact on business than on residential customers. It is generally felt that rate rebalancing will benefit business customers more than residential customers. Studies on LMS have shown that local service usage in the residential market varies significantly by household size, income, and age of the head of the household. However, the usefulness of this literature is limited by the lack of information on the effects of LMS and rate rebalancing within Ontario or within Canada.

B. RESEARCH OBJECTIVES

The research objective of this study was to collect information from residential and small business telephone users in Ontario concerning;

- local and long distance calling patterns;
- attitudes towards local and long distance pricing issues;
- interrelationships between pricing attitudes and calling patterns; and
- interrelationships between pricing attitudes and user characteristics.

This report describes the findings regarding residential customers. A companion report contains the small business customer findings.

II. METHODOLOGY

A. OVERVIEW

The data for this study were collected by a mail diary and accompanying questionnaire. The questionnaire was designed to measure telephone pricing attitudes and user characteristics. The diary was designed to measure outgoing telephone calling patterns.

After reviewing the draft diary and questionnaire with Ministry of Transportation and Communications managers, both the diary and questionnaire were pretested. After reviewing the pretest results, a revised questionnaire and diary were developed (Appendix II).

Potential respondents were recruited by telephone and individuals who agreed to participate were mailed the diary and questionnaire. As a recruitment incentive, individuals were given a lottery ticket for participating in the study. Individuals who indicated that they, or other household members, worked for a telephone company or affiliate were excluded from participating in the study. During the recruitment interview, individuals were asked how many telephones they had in their homes so that one diary could be sent for each telephone set.

A quota of 105 individuals was recruited from each of the Ministry's five administrative regions, for a total of 525 individuals. A regional quota was set in order to test for regional differences across the province in the survey results. Based on an estimated response rate of 60%, it was expected that the completed sample size would be 315 or 63 individuals in each region. This sample size (315) was chosen in order to achieve a sample accuracy of $\pm 5.5\%$ for the aggregate result and $\pm 10\%$ for regional results (based on a binominal distribution for a 50%-50% response proportion at a 95% confidence level).

EXHIBIT 1
CITIES SAMPLED

| <u>Region</u> | <u>Central Cities</u> | <u>Adjacent Communities</u> |
|---------------|-----------------------|---|
| Eastern | Ottawa | Rockland, Russell |
| | Kingston | Bath, Gananoque |
| Central | Metro Toronto | Maple |
| | Hamilton | Grimsby, Caledonia |
| Southwestern | London | Lambeth |
| | Windsor | Amherstberg, Essex |
| Northeastern | Sudbury | Lively, Whitefish, Chelmsford, Blezard Valley |
| | North Bay | Bonfield, Redbridge, Dokis |
| | Timmins | New Liskeard, Haileybury |
| Northwestern | Sault Ste. Marie | Echo Bay, Goulais |
| | Thunder Bay | Murillo |

EXHIBIT 2
SAMPLE STRUCTURE BY TYPE OF SAMPLE

| | |
|------------------|-----|
| Completed Sample | 328 |
| Total Mailouts | 525 |
| Response Rate | 62% |

The sample was drawn randomly from telephone books for a set of selected cities in each region. The cities were chosen on the basis of their representativeness of the region and the requirement that each city has Extended Area Service (EAS). Only respondents who lived in communities with EAS were selected because local measured service will have the greatest impact in areas with EAS. Rural and suburban representation was ensured by recruiting individuals who resided in small communities adjacent to the selected cities. Exhibit 1, opposite, contains the list of cities from which individuals were recruited, broken down by region and type of city (i.e., central or adjacent).

Respondents were mailed the diary and questionnaire in one outer envelope which contained one diary for each telephone set the respondent owns. The questionnaire was enclosed in an inner envelope with instructions that the diary was to be completed before the questionnaire envelope was opened. This was done in order to avoid having the questionnaire bias the diary. The diary itself required the respondent and everyone else in the household to record all outgoing calls made from their residence during the week of Thursday, May 2 to Wednesday, May 8, 1985. For each outgoing call, the time and day of the call, length, person called and type of call (i.e., local or long distance) was recorded. All respondents received reminder telephone calls to complete and return the diary and questionnaire.

The questionnaire was answered after the diary was completed and respondents were encouraged to look at their completed diary while answering the questionnaire. This was done to ensure that respondents were fully aware of their telephone usage when they completed the questionnaire which provided respondents with the current basic local service rate in their area, excluding set rental and Touch Tone service. This was done to ensure that respondents were aware of the telephone service charges in their area as they completed the questionnaire.

EXHIBIT 3

SAMPLE STRUCTURE BY REGION

Region

| | |
|-------------|-----|
| SAMPLE SIZE | 328 |
| Southwest | 21% |
| Central | 16 |
| Eastern | 19 |
| Northeast | 19 |
| Northwest | 25 |

EXHIBIT 4

SAMPLE STRUCTURE BY COMMUNITY SIZE

Community Size

| | |
|------------------------|-----|
| SAMPLE SIZE | 328 |
| Urban | 64% |
| Rural, Small Community | 36 |

B. SAMPLE STRUCTURE

A total of 328 usable diaries and questionnaires was received, representing a 62% response rate (Exhibit 2, opposite previous page). Exhibit 3, opposite, provides a breakdown of the sample structure by the Ministry's administrative regions. Due to varying response rates in each region, 16% of the sample comprised respondents residing in the Central region, compared with a planned 20%. Conversely, 25% of the sample came from the Northwest region. These variations were relatively minor and did not reflect major regional differences in response rates.

A breakdown of the sample structure by community size is provided in Exhibit 4 on the opposite page. The majority of respondents (64%) live in urban or central city locations. Only 36% of the respondents in the sample live in the rural or small communities adjacent to central cities. It must be stressed, however, that all rural and small community respondents had extended area service to the larger, adjacent communities.

C. RESPONDENT CHARACTERISTICS

The average size of respondents' households was 3.0, with an average of 1.4 males and 1.6 females (Table 1, Appendix 1). This indicates that the size of respondents' households was slightly larger than the provincial average of approximately 2.3 (based on 1981 Census).

In terms of household education levels, 34% of male heads of household and 30% of female heads of household had some post secondary education (Table 2, Appendix I). The 1981 Census indicates that 35% of male heads of household and 28% of female heads of households had some post secondary education. Therefore, the sample very accurately reflects the provincial education distribution.

EXHIBIT 5

NUMBER OF DAILY OUTGOING LOCAL CALLS

BY DAY OF WEEK

| | |
|-------------|------|
| SAMPLE SIZE | 324 |
| Monday | 3.4 |
| Tuesday | 3.4 |
| Wednesday | 3.3 |
| Thursday | 3.4 |
| Friday | 3.2 |
| Saturday | 2.7 |
| Sunday | 2.5 |
| Total Week | 21.5 |

EXHIBIT 6

NUMBER OF WEEKLY OUTGOING LOCAL CALLS

BY TIME OF DAY

| | |
|----------------------|------|
| SAMPLE SIZE | 324 |
| 8:00 a.m.-9:00 p.m. | 18.6 |
| 9:00 p.m.-11:00 a.m. | 2.4 |
| 11:00 p.m.-8:00 a.m. | 0.8 |
| Total Week | 21.8 |

Table 3, (Appendix I) presents an occupational breakdown of the male and female heads of household in the sample. The largest occupational category for males was skilled worker (34%) followed by professional (27%). The largest occupational category for females was housewife (34%) followed by professional (18%). In the sample, 77% of male and 36% of female heads of household were employed full-time (Table 4, Appendix I). Comparisons of occupational levels and employment status to Census results cannot be done due to differences in how the variables are defined.

As noted earlier, all respondents had Extended Area Service to adjacent communities. The majority of households (68%) in the sample did not have touchtone service (Table 5, Appendix I).

Overall, these results indicate that the sample was quite representative of the Ontario population in terms of respondent characteristics.

D. SAMPLE ACCURACY

The next four sections present the key findings of the study. All results are presented on an aggregate, provincial basis without regional breakdowns. Regional analyses were undertaken, but no significant differences at a 95% confidence level were found in any of the results. Consequently, only aggregate results are presented in this report and the sample should be considered representative of the province as a whole, despite the regional quota sampling plan which was used.

In interpreting the study results, it must be stressed that the results are only accurate within a specified level of accuracy, due to sampling fluctuations. That is, had a different sample of respondents been drawn, sampling fluctuations might have yielded slightly different results. Appendix III contains the accuracy

EXHIBIT 9

NUMBER OF WEEKLY OUTGOING LONG
DISTANCE CALLS BY PERSONAL CALLED

Person Called

| | |
|-----------------------|------|
| SAMPLE SIZE | 322 |
| Friends and Relatives | 1.00 |
| Businesses | 0.28 |
| Professionals | 0.05 |
| Emergencies | 0.00 |
| Other | 0.07 |
| Total Week | 1.40 |

EXHIBIT 10

RATE RE BALANCING ATTITUDES

| | |
|--------------------|-----|
| SAMPLE SIZE | 311 |
| Strongly in Favour | 7% |
| Somewhat in Favour | 13 |
| Somewhat Opposed | 14 |
| Strongly Opposed | 66 |
| | 80 |

Like most local calls, most long distance calls made each week by residential respondents were made to friends and relatives (1.0 calls) (Exhibit 9, opposite). Interestingly, a substantial number of long distance calls were made to businesses each week (0.28 calls).

C. SUMMARY

In terms of calling patterns, residential respondents made an average of 21.5 local calls and 1.4 long distance calls each week. Most local and long distance calls are made to friends and relatives. The majority of local and long distance calls are made during the week rather than on weekends.

IV. TELEPHONE PRICING ATTITUDES

A. RATE REBALANCING

Respondents were asked whether they were in favour or opposed to a rate rebalancing plan. Under this plan their existing local rates would be doubled and their long distance rates would be reduced by 50%.

The vast majority of residential respondents were either strongly opposed (66%) or somewhat opposed (14%) to rate rebalancing (Exhibit 10, opposite). These results indicate that respondents have very strong opinions concerning their opposition to the rate rebalancing plan which was presented to them.

Despite the 50% reduction in long distance rates in the rebalancing plan, very few residential respondents indicated that they would make more long distance calls. The majority of respondents (63%), indicated that they would not change the number of long distance calls which they would make (Exhibit 11, opposite next page).

EXHIBIT 11
CHANGE IN LONG DISTANCE CALLING
DUE TO REBALANCING

| | |
|-----------------------------|-----|
| SAMPLE SIZE | 323 |
| Twice as Many Calls or More | 2% |
| A Lot More | 3 |
| Somewhat More | 10 |
| A Few More | 22 |
| No Change | 63 |

EXHIBIT 12
AFFORDABILITY OF RATE REBALANCING

| | |
|--------------------------|------|
| SAMPLE SIZE | 266 |
| Very Easy to Afford | 3% |
| Easy to Afford | 35 |
| Difficult to Afford | 49 |
| Very Difficult to Afford | 13 |
| | } 62 |

The strong opposition to rate rebalancing may be due to the fact that about two-thirds (62%) of respondents indicated that they would have difficulty affording rebalanced telephone rates (Exhibit 12, opposite). Of these respondents, 14% indicated that they would be somewhat likely to discontinue their telephone service and 16% would be very likely to discontinue their service (Exhibit 13, opposite next page). It is unlikely that all of these respondents would, in fact, discontinue their service. Assuming that 30% of those who answered that they would be "somewhat likely" to discontinue service and 90% of those who said they would be "very likely" to discontinue their service, in fact do so, an estimated 11.5% of respondents would discontinue their telephone service with this rebalancing plan.

B. LOCAL MEASURED SERVICE

Respondents were asked whether they would prefer a flat rate which was \$3.00 per month higher than their current flat rate, or a local measured service rate with the following elements:

- Reduced monthly minimum charge equal to \$1 less than their current flat rate; and
- 2¢ charge for first minute of each outgoing local call; and
- Additional minute charges of 1¢ for calls made during the week between 8 a.m. and 9 p.m., 2/3¢ for calls made between 9 p.m. and 11 p.m. during the week, and 1/3¢ for calls made at all other times.

The local measured service plan was partly based on a composite of local measured service rates and structures used in various American state jurisdictions. The time boundaries for peak and off-peak rates were obtained from a scenario presented by Bell Canada in

EXHIBIT 13

LIKELIHOOD OF DISCONTINUING SERVICE

IF RATE REBALANCING OCCURRED

| | |
|-------------------|------------------|
| SAMPLE SIZE | 194 ¹ |
| Very Likely | 16% |
| Somewhat Likely | 14 |
| Somewhat Unlikely | 27 |
| Very Unlikely | 43 |

¹ Asked only of those respondents who indicated some difficulty in affording rate rebalancing.

Local Telephone Service Pricing: Is There A Better Way? ("LMS Rating Considerations", John A. Elliot, pg 53 to 59, Proceedings of a conference held in Montreal, Quebec, May 2 to May 4, 1984). These rates are not to be understood as necessarily predicted or advocated.

Despite the increased flat rate charge, most respondents (63%) still preferred the flat rate plan (Table 6, Appendix I).

In order to assess attitudes towards flat rate versus local measured service pricing in a rate rebalanced environment, respondents were also asked to indicate whether they preferred a second flat rate or a second local measured service rate. Both rates, however, allowed for a 50% reduction in long distance rates. The second flat rate was equal to twice their current flat rate plus an additional \$6.00. The combined local measured service rate contained the following elements:

- Increased monthly minimum charge of twice the respondent's current flat rate less \$2.00, plus
- 4¢ charge for the first minute of each outgoing local call, and
- additional minute charges of 2¢ for calls made during the week between 8:00 a.m. and 9:00 p.m., 1 1/3¢ for calls made between 9:00 p.m. and 11 p.m. during the week and 2/3¢ for calls made at other times.

Given a choice between these two rate proposals, 20% preferred the second flat rate, 40% preferred the local measured service rate and 34% indicated that they would discontinue their telephone service (Table 6, Appendix I).

Respondents were asked why they preferred the flat rate plans to either the local measured service rate or the local measured service rate with rate rebalancing. The flat rate plan was preferred to the

EXHIBIT 14

TIME SHIFTING DUE TO LMS

| | <u>LMS Only</u> | <u>LMS and Rebalancing</u> |
|--------------------|-----------------|--------------------------------|
| SAMPLE SIZE | 293 | 299 |
| Yes, Would Shift | 46% | 54% |
| No, Wouldn't Shift | 54 | 46 |

local measured service rate either because the flat rate was perceived to be less expensive (50%) or because the flat rate allowed the subscriber to know how much the telephone charges would be each month (43%) (Table 7, Appendix I). Similarly, preference for the second flat rate plan, compared to the local measured service rate with rate rebalancing, was based on a perception that the second flat rate plan was less expensive (60%) or because the subscriber would know how much the telephone charges would be each month (28%) (Table 7, Appendix I).

Preference for the local measured service plan was cross-tabulated, with preference for the local measure service with rate rebalancing plan in order to assess consistency of preferences. Among respondents who preferred local measured service with rate balancing, 63% also preferred local measured service without rate rebalancing (Table 8, Appendix I). Conversely, among respondents who preferred the second flat rate plan to local measured service with rate rebalancing, 81% preferred the first flat rate plan to local measured service without rate rebalancing. Finally, among those who indicated that they would discontinue their service if local measured service with rate rebalancing were introduced, 62% preferred the first flat rate plan.

Respondents were asked to estimate how many fewer local telephone calls they would make if either the local measured service rate or the local measured service rate with rate rebalancing were introduced and made mandatory. Under a local measured service rate, 73% indicated that they would not make any fewer calls each day (Table 9, Appendix I). With a local measured service rate with rate rebalancing, the majority of respondents(58%) still indicated that they would not make any fewer local calls.

Respondents were also asked if they would shift their local calling to other time periods if the local measured service or local

EXHIBIT 15

CHANGE IN LOCAL CALL LENGTH WITH LMS

| | <u>LMS Only</u> | <u>LMS and Rebalancing</u> |
|------------------|-----------------|--------------------------------|
| SAMPLE SIZE | 307 | 301 |
| A Lot Shorter | 25% | 33% |
| Somewhat Shorter | 36] 61 | 36] 69 |
| No Change | 38 | 31 |
| Somewhat Longer | 1 | 0 |
| A Lot Longer | 0 | 0 |

EXHIBIT 16

CHANGE IN VOLUNTEER CALLING

| | <u>LMS Only</u> | <u>LMS AND Rebalancing</u> |
|------------------|-----------------|--------------------------------|
| SAMPLE SIZE | 64 ¹ | 64 ¹ |
| A Lot More Calls | 0% | 1% |
| A Few More Calls | 1 | 1 |
| No Change | 45 | 44 |
| A Few Less Calls | 16] 54 | 22] 54 |
| A Lot Less Calls | 38] | 32] |

¹ Asked only of the 20% of respondents who used the telephone for volunteer purposes.

measured service/rate rebalancing plans were introduced. A large number of respondents indicated that they would shift the time of their local calling under either local measured service (46%) or local measured service/rate rebalancing (54%) plans (Exhibit 14, opposite previous page). Those respondents who indicated that they would switch their local calling to other time periods were asked how many calls they would switch each day. The median number of local calls which would be switched under either the local measured service or local measured service/rate rebalancing plans is 2.5 (Table 10, Appendix I).

Respondents were also asked whether they would make shorter local calls if either local measured service or local measured service/rate rebalancing were introduced. A majority of respondents indicated that they would make shorter calls if either local measured service (61%) or local measured service/rate rebalancing (69%) were introduced (Exhibit 15, opposite).

Those respondents who indicated that they made volunteer calls from their homes were asked whether they would make fewer volunteer calls if local measured service or local measured service with rate rebalancing were introduced. A majority of respondents indicated that they would make fewer volunteer calls if either local measured service (54%) or local measured service with rate rebalancing (54%) were introduced (Exhibit 16, opposite).

Respondents were also asked whether they would make more telephone calls from their place of employment if either local measured service or local measured service with rate rebalancing were introduced. Most respondents indicated that they would not make any more telephone calls from their place of employment under either local measured service (79%) or local measured service with rate rebalancing (81%) (Table 11, Appendix I).

C. SUMMARY

There are two major findings concerning telephone pricing attitudes. First, most residential respondents are strongly opposed to the rate balancing proposal presented to them in this survey. One reason for this opposition to rate rebalancing is the perceived lack of benefits of reduced long distance charges since few respondents indicated that they would make more long distance calls if the rates were reduced. In fact, many respondents indicated that they would have difficulty affording rebalanced rates, some to the extent of discontinuing service. In addition, rate rebalancing may reduce long distance calling as household telephone budgets are reallocated to pay the increased local charge.

Second, respondents are also opposed to either local measured service or local measured service with rate rebalancing for two reasons: respondents believe the flat rate is cheaper and it sets a maximum bill each month. Respondents indicated that they are likely to save on local calling charges by shifting their calling to cheaper time periods and making shorter calls rather than reducing the number of local calls made should LMS or LMS/rate rebalancing be introduced. A substantial number of respondents indicated they would discontinue their service, if LMS/rate rebalancing were introduced. (See Table 6, Appendix I).

V. RELATIONSHIP BETWEEN CALL PATTERNS AND TELEPHONE SERVICE PRICING ATTITUDES

Analysis was undertaken to determine whether the number of calls made by respondents were related to their attitudes concerning telephone service pricing. Significant relationships were identified by applying cross tabulation and analyses of variance techniques with a 95% confidence level.

Preference for rate rebalancing was significantly related to the number of long distance calls made by respondents. Respondents who were strongly in favour of rate rebalancing made significantly more long

distance calls (2.9) each week than respondents who were strongly opposed to rate rebalancing (1.3) (Table 12, Appendix I).

Not surprisingly, the number of outgoing local calls made by respondents was related to their preference for flat rate over local measured service. Respondents who preferred flat rate made significantly more local calls each week (24.4) than respondents who preferred local measured service (15.2) (Table 13, Appendix I). However, no relationship between local calling patterns and preference for local measured service with rate rebalancing could be established (Table 14, Appendix I). However, the sample size may be insufficient to detect such a relationship in this survey.

In summary, there is a positive relationship between the number of long distance calls made by respondents and their preference for rate rebalancing. Respondents who prefer rate rebalancing make more long distance calls than those who oppose rate rebalancing.

In addition, there is a positive relationship between the number of local calls made by respondents and their preference for flat rate over local measured service. Respondents who prefer flat rate service make more local calls than those who prefer local measured service. No relationship between the number of local calls made by respondents and preference for flat rate over local measured service with rate rebalancing could be established.

VI. RELATIONSHIP BETWEEN TELEPHONE SERVICE PRICING ATTITUDES AND RESPONDENT CHARACTERISTICS

The relationship between telephone service pricing attitudes and selected respondent characteristics were examined, using cross tabulation and analyses of variance.

The affordability of rate rebalancing was compared between respondents who live in households in which someone is confined and all other

EXHIBIT 17

RATE REBALANCING AFFORDABILITY BY CONFINEMENT

(RESIDENTIAL SAMPLE)

| <u>Affordability</u> | <u>Confined Person In Household</u> | <u>No One Confined In Household</u> |
|--------------------------|---|---|
| SAMPLE SIZE | 15 | 248 |
| Very Ease to Afford | 13% | 2% |
| Easy to Afford | 7 | 37 |
| Difficult to Afford | 73] | 47] |
| Very Difficult to Afford | 7] 80 | 14] 61 |
| | | (p < .01) |

respondents. Respondents who lived in households in which someone is confined reported greater difficulty (80%) in affording telephone service if rates were rebalanced than those in other households (61%) (Exhibit 17, opposite).

In addition, preference for flat rate or local measured service with rate rebalancing was crosstabulated with household income. Not surprisingly, higher income groups indicated less likelihood of discontinuing service if local measured service with rate rebalancing were introduced than low income groups. Among the twelve (5.5% of sample) households with incomes under \$8,000, 50% of those respondents indicated that they would discontinue their service while only 22% of respondents from households with incomes of over \$40,000 stated that they would discontinue their service (Table 15, Appendix I).

In summary, telephone service pricing attitudes are related to some respondent characteristics. Households with confined individuals would have greater difficulty affording rate rebalancing. Low income households would be more likely to discontinue telephone service under local measured service with rate rebalancing than high income households.

VII. SUMMARY OF KEY FINDINGS

There are six key findings. First, residential respondents make an average of 21.5 local calls and 1.4 long distance calls each week, primarily to friends and relatives.

Second, most residential respondents are strongly opposed to the rate rebalancing proposal presented in this study, generally because few respondents perceive any benefits to them in rate rebalancing. The long distance cost savings do not exceed the increased local service costs.

Third, respondents are also opposed to either local measured service or local measured service with rate rebalancing. A substantial number of respondents indicated that they would discontinue their service if local measured service with rate rebalancing were introduced.

Fourth, respondents who make a high number of local calls prefer flat rate service to local measured service.

Fifth, respondents who make a low number of long distance calls are opposed to reduced long distance charges and increased local service changes under rate rebalancing.

And sixth, some telephone pricing attitudes are related to respondent characteristics. Households where someone is confined indicated a greater difficulty in affording rate rebalancing. Low income households reported greater likelihood of discontinuing telephone service if local measured service with rate rebalancing is introduced.

APPENDIX I

SUPPLEMENTARY TABLES

TABLE 1
HOUSEHOLD SIZE BY AGE

| <u>Age</u> | <u>Males</u> | <u>Females</u> | <u>Total</u> |
|-------------|--------------|----------------|--------------|
| SAMPLE SIZE | | | 320 |
| 6 and Under | .16 | .19 | .35 |
| 7 to 12 | .14 | .14 | .28 |
| 13 to 19 | .16 | .20 | .36 |
| 20 to 29 | .21 | .31 | .52 |
| 30 to 39 | .25 | .23 | .48 |
| 40 to 49 | .15 | .18 | .33 |
| 50 to 64 | .11 | .13 | .24 |
| Total | 1.40 | 1.60 | 3.00 |

TABLE 2
HEAD OF HOUSEHOLD EDUCATIONAL LEVELS

| | <u>Male Head</u> | | <u>Female Head</u> | |
|------------------------------|------------------|------|--------------------|------|
| SAMPLE SIZE | 254 | | 259 | |
| Grade 8 or Less | 15% | | 8% | |
| Grade 9 to 12 | 44 | | 55 | |
| Grade 13 | 7 | | 7 | |
| Some College/University | 13 | } 34 | 12 | } 30 |
| Completed College/University | 21 | | 18 | |

TABLE 3
HEAD OF HOUSEHOLD OCCUPATIONS

| | <u>Male Head</u> | <u>Female Head</u> |
|-------------------|------------------|--------------------|
| SAMPLE SIZE | 254 | 236 |
| Professional | 27% | 18% |
| Managerial | 9 | 3 |
| Sales | 2 | 5 |
| Clerical | 4 | 14 |
| Skilled | 34 | 6 |
| Unskilled | 8 | 3 |
| Farmer, Fisherman | 1 | 1 |
| Retired | 11 | 9 |
| Unemployed | 2 | 3 |
| Housewife | 1 | 34 |
| Student | 0 | 3 |
| Other | 1 | 1 |

TABLE 4
HEAD OF HOUSEHOLD EMPLOYMENT STATUS

| | <u>Male Head</u> | <u>Female Head</u> |
|--------------------|------------------|--------------------|
| SAMPLE SIZE | 269 | 266 |
| Full-time Employed | 77% | 36% |
| Part-time Employed | 4 | 17 |
| Not Employed | 6 | 35 |
| Retired | 13 | 12 |

TABLE 5
TOUCHTONE SERVICE

| | |
|------------------------------|-----|
| SAMPLE SIZE | 315 |
| Have Touchtone Service | 32% |
| Don't Have Touchtone Service | 68 |

TABLE 6

LMS PREFERENCES

| | <u>LMS Only</u> | <u>LMS and Rebalancing</u> |
|--------------------------|-----------------|--------------------------------|
| SAMPLE SIZE | 246 | 239 |
| Prefer Flat Rate | 63% | 26% |
| Prefer LMS | 37 | NA |
| Prefer LMS & Rebalancing | NA | 40 |
| Discontinue Service | NA | 34 |

NA - Not Asked

TABLE 7

REASONS FOR PREFERRING FLAT RATE

| | <u>LMS Only</u> | <u>LMS and Rebalancing</u> |
|------------------------|-----------------|--------------------------------|
| SAMPLE SIZE | 142 | 58 |
| Flat Rate Cheaper | 50% | 60% |
| Know Amount Each Month | 43 | 28 |
| Both | 1 | 2 |
| Other | 6 | 10 |

TABLE 8
RELATIONSHIP BETWEEN LMS PREFERENCE
AND LMS WITH RATE REBALANCING PREFERENCE

| | | <u>LMS WITH RATE REBALANCING PREFERENCE</u> | | |
|----------------|---------------|---|-----------------------------|----------------------------|
| | | <u>Flat Rate</u> | <u>LMS with Rebalancing</u> | <u>Discontinue Service</u> |
| SAMPLE SIZE | | 57 | 80 | 55 |
| LMS Preference | Flat Rate LMS | 81% ¹ 19 | 37% 63 | 62% 38 |

(p < .001)

¹ Indicates that of those respondents who preferred flat rate service instead of LMS with rate rebalancing, 81% also preferred flat rate service to LMS.

TABLE 9
LOCAL CALLING REPRESSION
PER DAY WITH LMS

| | <u>LMS Only</u> | <u>LMS and Rebalancing</u> |
|--------------|-----------------|----------------------------|
| SAMPLE SIZE | 222 | 229 |
| None | 73% | 58% |
| One | 4 | 5 |
| Two | 6 | 9 |
| Three | 4 | 10 |
| Four | 2 | 2 |
| Five or More | 11 | 16 |
| Median | 0 | 0 |

TABLE 10
NUMBER OF CALLS SWITCHED
TO A CHEAPER TIME EACH DAY WITH LMS

| | <u>LMS Only</u> | <u>LMS and Rebalancing</u> |
|--------------|-----------------|--------------------------------|
| SAMPLE SIZE | 84 ¹ | 102 ¹ |
| None | 9% | 10% |
| One | 6 | 12 |
| Two | 20 | 18 |
| Three | 25 | 22 |
| Four | 4 | 10 |
| Five or More | 36 | 28 |
| Median | 2.5 | 2.5 |

¹ Asked only of those respondents who indicated some likelihood of switching calling times.

TABLE 11

INCREASE IN PERSONAL CALLS FROM PLACE OF EMPLOYMENT

| | <u>LMS Only</u> | <u>LMS and Rebalancing</u> |
|--------------|-----------------|--------------------------------|
| SAMPLE SIZE | 255 | 257 |
| None | 79% | 81% |
| One | 5 | 5 |
| Two | 6 | 5 |
| Three | 4 | 2 |
| Four | 0 | 1 |
| Five or More | 6 | 6 |

TABLE 12

RELATIONSHIP BETWEEN OUTGOING LONG DISTANCE CALLS
AND RATE REBALANCING

| <u>Preference</u> | <u>NUMBER OF LONG DISTANCE CALLS (WEEKLY)</u> |
|--------------------|---|
| SAMPLE SIZE | 310 |
| Strongly in Favour | 2.9 |
| Somewhat in Favour | 1.5 |
| Somewhat Opposed | 1.2 |
| Strongly Opposed | 1.3 |
| | (p < .01) |

TABLE 13

RELATIONSHIP BETWEEN OUTGOING LOCAL CALLS AND LMS PREFERENCE

| <u>Preference</u> | <u>Number of Local Calls (Weekly)</u> |
|-------------------|---|
| SAMPLE SIZE | 242 |
| Flat Rate | 24.4 |
| LMS | 15.2 |
| | (p < .01) |

TABLE 14

RELATIONSHIP BETWEEN OUTGOING LOCAL CALLS
AND LMS/RATE REBALANCING PREFERENCE

| <u>Preference</u> | <u>Number of Local Calls (Weekly)</u> |
|---------------------|---|
| SAMPLE SIZE | 228 |
| Flat Rate | 24.8 |
| LMS Rebalancing | 19.4 |
| Discontinue Service | 20.1 |
| | (N.S.) |

N.S. - Not Significant at 95% confidence level. This indicates that the differences in the number of local calls among the three groups may be due to sampling fluctuations.

APPENDIX II

THE QUESTIONNAIRE AND DIARY

(Example of Questionnaire and Diary
Used for Respondents Residing in Bell Canada
Rate Group 7, i.e. North Bay)

TELEPHONE STUDY
RESIDENCE QUESTIONNAIRE

(MAY, 1985)

PLEASE COMPLETE AND RETURN TO:

DEMAND Research Consultants
99 Bank Street, Suite 727
Ottawa, Ontario
K1P 6B9

Demand Research
99 Bank Street, Suite 727
Ottawa, Ontario
K1P 6B9
(613) 235-1468

Card #: 1 1
Resp #: 2-5
Project #: 2 0 2 1 1 9 6-11
Version 1 0 7 12-14

TELEPHONE STUDY

RESIDENCE QUESTIONNAIRE

We have designed this questionnaire so that a minimum amount of effort on your part is required to complete it.

In some cases, you will answer by circling a number on the scale provided. In other cases, we will ask you to write in your answer.

To guide you through the questionnaire, each question is followed by its own set of instructions.

We would like you to answer a few questions about some possible changes to your telephone rates. If you wish, you may look at your weekly record of calls when you answer these questions.

For your information, the current basic local service rate in your area, excluding telephone set rental and TouchTone service charges is \$7.55 per month.

A local call is a call where there is no long distance charge.

1. Would you be in favour or opposed to a doubling of your basic local service telephone rate to \$15.10 each month if long distance rates in general were reduced by 50%? **CIRCLE ONE NUMBER.**

| | |
|--------------------|---|
| Strongly in favour | 1 |
| Somewhat in favour | 2 |
| Somewhat opposed | 3 |
| Strongly opposed | 4 |
| Undecided | 8 |

your basic local service telephone rate is currently based on a flat rate where you can make an unlimited number of local calls for a flat charge.

One alternative to a local flat rate is a local measured rate where there would be a minimum monthly charge of \$6.55 plus a usage charge of:

For the first minute of each outgoing local call: 2¢

For each additional minute:

- for calls made Mon - Fri from 8 am to 9 pm: 1¢
- for calls made Mon - Fri from 9 pm to 11 pm: 2/3¢
- for calls made during all other times: 1/3¢

5. If your current local flat rate was increased by \$3 to \$10.55 each month, would you prefer the new higher local flat rate or the local measured rate? (Please feel free to look at your record of telephone calls when answering this question if you wish.) **CIRCLE ONE NUMBER.**

- | | | |
|----------------------------|---|-------------------|
| Prefer new flat rate | 1 | |
| Prefer local measured rate | 2 |] SKIP QUESTION 6 |
| Undecided | 8 | |

6. What is the main reason for preferring the new local flat rate instead of the local measured rate? **CIRCLE ONE NUMBER.**

New local flat rate would cost you less than the local measured rate 1

You would know how much your bill would be each month 2

Other (specify) _____ 3

9 19

20

21

7. If the local measured rate was introduced in your area and you were charged the local measured rate, how many fewer local calls, if any, would you make each day? CIRCLE ONE NUMBER.

| | |
|--------------|---|
| No change | 0 |
| One | 1 |
| Two | 2 |
| Three | 3 |
| Four | 4 |
| Five or more | 5 |
| Not sure | 8 |

8. And, if you were charged the local measured rate, would you change the times when you make some of your local calls in order to save money? CIRCLE ONE NUMBER.

| | |
|-----------|---|
| Yes | 1 |
| No | 2 |
| Undecided | 8 |

SKIP QUESTION 9

9. How many calls in the average day would you switch to a cheaper time period, in order to save money? CIRCLE ONE NUMBER.

| | |
|--------------|---|
| None | 0 |
| One | 1 |
| Two | 2 |
| Three | 3 |
| Four | 4 |
| Five or more | 5 |
| Not sure | 8 |

10. If you were charged the local measured rate, how would the length of your average local call change? Would it be CIRCLE ONE NUMBER.

- | | |
|------------------|---|
| A lot shorter | 1 |
| Somewhat shorter | 2 |
| No change | 3 |
| Somewhat longer | 4 |
| A lot longer | 5 |
| Undecided | 8 |

25

11. And, if you were charged the local measured rate, how many more personal calls, if any, would you make from your place of employment each day? CIRCLE ONE NUMBER.

- | | |
|--------------|---|
| None | 0 |
| One | 1 |
| Two | 2 |
| Three | 3 |
| Four | 4 |
| Five or more | 5 |
| Undecided | 8 |

27

12. Do you or anyone else in your household make telephone calls for volunteer agencies and charities (such as Scouts, Girl Guides, Hockey teams and the Red Cross) from your household telephone? CIRCLE ONE NUMBER.

- | | |
|-----|--------------------|
| Yes | 1 |
| No | 2 SKIP QUESTION 13 |

28

13. If your were charged for your telephone service under the local measured service rate, please indicate whether the number of calls that your household makes for volunteer agencies and charities each month would change. CIRCLE ONE NUMBER.

- Would make a lot more volunteer calls 1
- Would make a few more volunteer calls 2
- No change on volunteer calls 3
- Would make a few less volunteer calls 4
- Would make a lot less volunteer calls 5
- Undecided 8

29

Another alternative to a local flat rate is a second local measured rate where there would be a minimum monthly charge of \$13.10 plus a usage charge of:

- For the first minute of each outgoing local call: 4¢
- For each additional minute:
 - for calls made Mon - Fri, from 8 am to 9 pm 2¢
 - for calls made Mon - Fri, from 9 pm to 11 pm 1 1/3¢
 - for calls made during all other times 2/3¢

In addition, long distance rates in general would be reduced by 50%.

14. If your current local flat rate was increased by \$13.55 to \$21.10 each month, with a 50% reduction in long distance rates, would you prefer the new higher local flat rate or this second local measured rate or would you discontinue your telephone service? (Please feel free to look at your record of telephone calls when answering this question if you wish). CIRCLE ONE NUMBER.

- Prefer new flat rate 1
 - Prefer local measured rate 2
 - Discontinue telephone service 3
 - Undecided 8
- SKIP QUESTION 15

30

15. What is the main reason for preferring the new local flat rate instead of this local measured rate? CIRCLE ONE NUMBER.

New local flat rate would cost you less
than the local measured rate 1

You would know how much your bill would
be each month 2

Other (specify) _____ 3

16. If this local measured rate was introduced in your area and you were charged this local measured rate, how many fewer local calls, if any, would you make each day? CIRCLE ONE NUMBER.

No change 0

One 1

Two 2

Three 3

Four 4

Five or more 5

Not sure 8

17. And, if you were charged this local measured rate, would you change the times when you make some of your local calls in order to save money? CIRCLE ONE NUMBER.

Yes 1

No 2

Undecided 8

SKIP QUESTION 18

18. How many calls in the average day would you switch to a cheaper time period in order to save money? CIRCLE ONE NUMBER.

| | |
|--------------|---|
| None | 0 |
| One | 1 |
| Two | 2 |
| Three | 3 |
| Four | 4 |
| Five or more | 5 |
| Not sure | 8 |

— 34

19. If you were charged this local measured rate, how would the length of your average local call change? Would it be CIRCLE ONE NUMBER.

| | |
|------------------|---|
| A lot shorter | 1 |
| Somewhat shorter | 2 |
| No change | 3 |
| Somewhat longer | 4 |
| A lot longer | 5 |
| Undecided | 8 |

— 35

20. And, if you were charged this local measured rate, how many more personal calls, if any, would you make from your place of employment each day? CIRCLE ONE NUMBER.

| | |
|--------------|---|
| None | 0 |
| One | 1 |
| Two | 2 |
| Three | 3 |
| Four | 4 |
| Five or more | 5 |
| Undecided | 8 |

9 36

— 37

IF HOUSEHOLD TELEPHONE IS NOT USED FOR VOLUNTEER OR CHARITY CALLS, GO TO QUESTION 22.

21. If you were charged for your telephone service under this local measured service rate, please indicate whether the number of calls that your household makes for volunteer agencies and charities each month would change. CIRCLE ONE NUMBER.

| | |
|---------------------------------------|---|
| Would make a lot more volunteer calls | 1 |
| Would make a few more volunteer calls | 2 |
| No change on volunteer calls | 3 |
| Would make a few less volunteer calls | 4 |
| Would make a lot less volunteer calls | 5 |
| Undecided | 8 |

— 38
9 9
39-40
9 9
41-42
9 43
9 44
9 45
9 46

Finally, a few questions to help us classify your answers along with everyone else who has taken part in the survey.

9 9
47-48
9 9 9
49-51

IF NO MALE HEAD OF HOUSEHOLD, GO TO QUESTION 25.

22. What is the occupation of the male head of the household? PLEASE BE SPECIFIC AND PRINT YOUR ANSWER CLEARLY.

9 52
9 53
54-55

23. Is he employed full-time, part-time, retired or not employed? CIRCLE ONE NUMBER ONLY.

| | |
|--------------|---|
| Full-time | 1 |
| Part-time | 2 |
| Retired | 3 |
| Not employed | 4 |

— 56

24. Which of the following describes the last year of schooling that the male head of your household completed? CIRCLE ONE NUMBER ONLY.

- | | |
|------------------------------|---|
| Grade 8 or less | 1 |
| Grades 9, 10, 11 or 12 | 2 |
| Grade 13 | 3 |
| Some College/University | 4 |
| Completed College/University | 5 |

57

IF NO FEMALE HEAD OF HOUSEHOLD, GO TO QUESTION 28

25. And, what is the occupation of the female head of the household? PLEASE BE SPECIFIC AND PRINT YOUR ANSWER CLEARLY.

58-59

26. Is she employed full-time, part-time, retired or not employed? CIRCLE ONE NUMBER ONLY.

- | | |
|--------------|---|
| Full-time | 1 |
| Part-time | 2 |
| Retired | 3 |
| Not Employed | 4 |

60

27. And what is the last year of schooling of the female head of the household? CIRCLE ONE NUMBER ONLY.

- | | |
|------------------------------|---|
| Grade 8 or less | 1 |
| Grades 9, 10, 11 or 12 | 2 |
| Grade 13 | 3 |
| Some College/University | 4 |
| Completed College/University | 5 |

61

28. How many males and females in your household fall into each of the following age groups? **RECORD NUMBER BELOW**

| | <u>Males</u> | <u>Females</u> |
|----------------------|--------------|----------------|
| Under 7 years of age | _____ | _____ |
| 7 - 12 | _____ | _____ |
| 13 - 19 | _____ | _____ |
| 20 - 29 | _____ | _____ |
| 30 - 39 | _____ | _____ |
| 40 - 49 | _____ | _____ |
| 50 - 64 | _____ | _____ |
| 65 and over | _____ | _____ |

62-63

64-65

66-67

68-69

70-71

72-73

74-75

76-77

29. Is anyone in your household largely confined to the house because of old age or a disability? **CIRCLE ONE NUMBER.**

Yes 1

No 2

78

30. Into which of the following groups does the total annual income of your household fall? **CIRCLE ONE NUMBER ONLY.**

Under \$8,000 1

\$8,000 - \$16,000 2

\$16,000 - \$24,000 3

\$24,000 - \$32,000 4

\$32,000 - \$40,000 5

Over \$40,000 6

79

31. Finally, do you have TouchTone telephone service? **CIRCLE ONE NUMBER.**

Yes 1

No 2

Don't know 8

80

THANK YOU VERY MUCH. PLEASE MAIL THIS QUESTIONNAIRE AND YOUR WEEKLY
RECORD OF CALLS IN THE ENVELOPE PROVIDED

INSTRUCTIONS

For each outgoing call that you or anyone else in your household makes, please indicate the first three digits of the number called (not the area code) and indicate:

1. Time of day - 8 a.m. - 9 p.m., or
 9 p.m. - 11 p.m., or
 11 p.m. - 8 a.m.
2. Length of call in minutes
3. Person called - friends, relatives, or
 professionals (i.e. doctor, dentist, etc.), or
 emergency services (i.e. hospitals), or
 business services (i.e. plumber, stores, etc.
 including your own place of work), or
 other (i.e. none of the above)
4. Type of call - local, or
 long distance.

PLEASE BE SURE TO DO THIS AS EACH CALL OCCURS THROUGHOUT EACH DAY FOR THE NEXT SEVEN DAYS

If you have more than one telephone, leave one copy of this booklet beside each telephone.

Please remind everyone in your household who uses the telephone to record their calls when they make them.

Do not record calls that are not completed, that is, if there is no answer or you get a busy signal.

Please record your telephone number here: _____

Please record your community here: _____

OUTGOING CALLS

INSTRUCTIONS

USE THIS PAGE FOR ALL CALLS MADE ON THURSDAY, MAY 2, 1985

For each outgoing completed call that is made, please indicate the first three digits of the number called, the length of the call in minutes and check (✓) the appropriate bracket for the time of day, person called, and type of call.

| Record first three digits of number called | TIME OF DAY | | | LENGTH OF CALL (MINUTES) | PERSON CALLED | | | | | TYPE OF CALL | |
|---|-------------|-------|-------|------------------------------------|--------------------|--------------------------|-----------|----------------------|-------|--------------|------------------|
| | 8 AM | 9 PM | 11 PM | | FRIENDS, FAMILY | PROFESSIONAL SERVICES | EMERGENCY | BUSINESS SERVICES | OTHER | LOCAL | LONG DISTANCE |
| | To | To | To | | | | | | | | |
| | 9 PM | 11 PM | 8 AM | | | | | | | | |
| 1. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 2. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 3. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 4. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 5. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 6. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 7. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 8. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 9. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 10. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 11. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 12. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 13. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 14. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 15. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 16. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 17. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 18. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 19. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 20. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 21. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 22. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 23. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 24. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 25. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 26. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 27. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 28. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 29. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 30. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 31. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 32. _____ | () | () | () | _____ | () | () | () | () | () | () | () |

OUTGOING CALLS

INSTRUCTIONS

USE THIS PAGE FOR ALL CALLS MADE ON FRIDAY, MAY 3, 1985

For each outgoing completed call that is made, please indicate the first three digits of the number called, the length of the call in minutes and check (✓) the appropriate bracket for the time of day, person called, and type of call.

| Record first three digits of number called | TIME OF DAY | | | LENGTH OF CALL (MINUTES) | PERSON CALLED | | | | | TYPE OF CALL | |
|---|--------------------|---------------------|---------------------|------------------------------------|--------------------|--------------------------|-----------|----------------------|-------|--------------|------------------|
| | 8 AM To 9 PM | 9 PM To 11 PM | 11 PM To 8 AM | | FRIENDS, FAMILY | PROFESSIONAL SERVICES | EMERGENCY | BUSINESS SERVICES | OTHER | LOCAL | LONG DISTANCE |
| | | | | | | | | | | | |
| 1. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 2. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 3. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 4. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 5. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 6. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 7. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 8. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 9. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 10. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 11. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 12. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 13. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 14. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 15. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 16. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 17. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 18. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 19. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 20. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 21. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 22. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 23. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 24. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 25. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 26. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 27. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 28. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 29. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 30. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 31. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 32. _____ | () | () | () | _____ | () | () | () | () | () | () | () |

OUTGOING CALLS

INSTRUCTIONS

USE THIS PAGE FOR ALL CALLS MADE ON SATURDAY, MAY 4, 1985

For each outgoing completed call that is made, please indicate the first three digits of the number called, the length of the call in minutes and check (✓) the appropriate bracket for the time of day, person called, and type of call.

| Record first three digits of number called | TIME OF DAY | | | LENGTH OF CALL (MINUTES) | PERSON CALLED | | | | | TYPE OF CALL | |
|--|--------------|---------------|---------------|--------------------------|-----------------|-----------------------|-----------|-------------------|-------|--------------|---------------|
| | 8 AM To 9 PM | 9 PM To 11 PM | 11 PM To 8 AM | | FRIENDS, FAMILY | PROFESSIONAL SERVICES | EMERGENCY | BUSINESS SERVICES | OTHER | LOCAL | LONG DISTANCE |
| | | | | | | | | | | | |
| 1. _____ | | | | _____ | () | () | () | () | () | () | () |
| 2. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 3. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 4. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 5. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 6. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 7. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 8. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 9. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 10. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 11. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 12. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 13. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 14. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 15. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 16. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 17. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 18. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 19. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 20. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 21. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 22. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 23. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 24. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 25. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 26. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 27. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 28. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 29. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 30. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 31. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 32. _____ | () | () | () | _____ | () | () | () | () | () | () | () |

OUTGOING CALLS

INSTRUCTIONS

USE THIS PAGE FOR ALL CALLS MADE ON SUNDAY, MAY 5, 1985

For each outgoing completed call that is made, please indicate the first three digits of the number called, the length of the call in minutes and check (✓) the appropriate bracket for the time of day, person called, and type of call.

| Record first three digits of number called | TIME OF DAY | | | LENGTH OF CALL (MINUTES) | PERSON CALLED | | | | | TYPE OF CALL | |
|---|-------------|-------|-------|------------------------------------|--------------------|--------------------------|-----------|----------------------|-------|--------------|------------------|
| | 8 AM | 9 PM | 11 PM | | | | | | | | |
| | To | To | To | | | | | | | | |
| | 9 PM | 11 PM | 8 AM | | FRIENDS, FAMILY | PROFESSIONAL SERVICES | EMERGENCY | BUSINESS SERVICES | OTHER | LOCAL | LONG DISTANCE |
| 1. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 2. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 3. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 4. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 5. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 6. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 7. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 8. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 9. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 10. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 11. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 12. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 13. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 14. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 15. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 16. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 17. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 18. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 19. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 20. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 21. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 22. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 23. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 24. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 25. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 26. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 27. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 28. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 29. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 30. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 31. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 32. _____ | () | () | () | _____ | () | () | () | () | () | () | () |

OUTGOING CALLS

INSTRUCTIONS

USE THIS PAGE FOR ALL CALLS MADE ON MONDAY, MAY 6, 1985

For each outgoing completed call that is made, please indicate the first three digits of the number called, the length of the call in minutes and check (✓) the appropriate bracket for the time of day, person called, and type of call.

| Record first three digits of number called | TIME OF DAY | | | LENGTH OF CALL (MINUTES) | PERSON CALLED | | | | | TYPE OF CALL | |
|---|--------------------|---------------------|---------------------|------------------------------------|--------------------|--------------------------|-----------|----------------------|-------|--------------|------------------|
| | 8 AM To 9 PM | 9 PM To 11 PM | 11 PM To 8 AM | | FRIENDS, FAMILY | PROFESSIONAL SERVICES | EMERGENCY | BUSINESS SERVICES | OTHER | LOCAL | LONG DISTANCE |
| | | | | | | | | | | | |
| 1. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 2. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 3. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 4. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 5. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 6. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 7. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 8. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 9. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 10. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 11. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 12. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 13. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 14. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 15. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 16. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 17. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 18. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 19. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 20. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 21. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 22. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 23. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 24. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 25. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 26. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 27. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 28. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 29. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 30. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 31. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 32. _____ | () | () | () | _____ | () | () | () | () | () | () | () |

OUTGOING CALLS

INSTRUCTIONS

USE THIS PAGE FOR ALL CALLS MADE ON TUESDAY, MAY 7, 1985

For each outgoing completed call that is made, please indicate the first three digits of the number called, the length of the call in minutes and check (✓) the appropriate bracket for the time of day, person called, and type of call.

| Record first three digits of number called | TIME OF DAY | | | LENGTH OF CALL (MINUTES) | PERSON CALLED | | | | | TYPE OF CALL | |
|---|--------------------|---------------------|---------------------|------------------------------------|--------------------|--------------------------|-----------|----------------------|-------|--------------|------------------|
| | 8 AM To 9 PM | 9 PM To 11 PM | 11 PM To 8 AM | | FRIENDS, FAMILY | PROFESSIONAL SERVICES | EMERGENCY | BUSINESS SERVICES | OTHER | LOCAL | LONG DISTANCE |
| | | | | | | | | | | | |
| 1. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 2. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 3. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 4. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 5. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 6. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 7. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 8. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 9. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 10. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 11. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 12. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 13. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 14. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 15. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 16. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 17. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 18. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 19. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 20. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 21. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 22. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 23. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 24. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 25. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 26. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 27. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 28. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 29. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 30. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 31. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 32. _____ | () | () | () | _____ | () | () | () | () | () | () | () |

OUTGOING CALLS

INSTRUCTIONS

USE THIS PAGE FOR ALL CALLS MADE ON WEDNESDAY, MAY 8, 1985

For each outgoing completed call that is made, please indicate the first three digits of the number called, the length of the call in minutes and check (✓) the appropriate bracket for the time of day, person called, and type of call.

| Record first three digits of number called | TIME OF DAY | | | LENGTH OF CALL (MINUTES) | PERSON CALLED | | | | | TYPE OF CALL | |
|---|-------------|-------------|------------|------------------------------------|--------------------|--------------------------|-----------|----------------------|-------|--------------|------------------|
| | 8 AM | 9 PM | 11 PM | | FRIENDS, FAMILY | PROFESSIONAL SERVICES | EMERGENCY | BUSINESS SERVICES | OTHER | LOCAL | LONG DISTANCE |
| | To 9 PM | To 11 PM | To 8 AM | | | | | | | | |
| 1. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 2. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 3. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 4. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 5. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 6. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 7. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 8. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 9. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 10. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 11. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 12. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 13. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 14. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 15. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 16. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 17. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 18. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 19. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 20. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 21. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 22. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 23. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 24. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 25. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 26. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 27. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 28. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 29. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 30. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 31. _____ | () | () | () | _____ | () | () | () | () | () | () | () |
| 32. _____ | () | () | () | _____ | () | () | () | () | () | () | () |

TABLE OF POINT ESTIMATE CONFIDENCE
INTERVALS FOR EXTRAPOLATION OF RESULTS TO POPULATION

TABLE OF POINT ESTIMATE CONFIDENCE INTERVALS
FOR EXTRAPOLATION OF RESULTS TO POPULATION
 (based on a 95% confidence interval)

| Response Proportion | Sample Size | | | |
|------------------------|--------------|--------------|--------------|--------------|
| | <u>100</u> | <u>200</u> | <u>300</u> | <u>315</u> |
| 10% - 90% | <u>+5.9%</u> | <u>+4.2%</u> | <u>+3.4%</u> | <u>+3.3%</u> |
| 20% - 80% | <u>+7.8%</u> | <u>+5.5%</u> | <u>+4.5%</u> | <u>+4.4%</u> |
| 30% - 70% | <u>+8.9%</u> | <u>+6.4%</u> | <u>+5.2%</u> | <u>+5.1%</u> |
| 40% - 60% | <u>+9.6%</u> | <u>+6.7%</u> | <u>+5.5%</u> | <u>+5.4%</u> |
| 50% - 50% | <u>+9.8%</u> | <u>+6.9%</u> | <u>+5.7%</u> | <u>+5.5%</u> |

Instructions:

To calculate the sample accuracy of each proportion reported in the study, take the sample size upon which the proportion is based and read accuracy level opposite the response proportion row under the sample size column.

Example:

The accuracy of a 50% response proportion based on a sample size of 300 is 50% + 5.7%, which means the true population response proportion is between 44.3% and 55.7%, 19 times out of 20.

